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To: GVTA Board of Directors

From: Pat Jacobsen, Chief Executive Officer

Date: July 11, 2003

Subject: **Richmond-Airport-Vancouver Rapid Transit Project – Essential Elements**

Staff Recommendation:

That the Board of Directors receive the report titled "Richmond-Airport-Vancouver Rapid Transit Project – Essential Elements" for information.

PURPOSE

The purpose of this report is to inform the Board of the essential elements of the Richmond-Airport-Vancouver Rapid Transit Project and respond to the requests of the City of Vancouver and the City of Richmond.

BACKGROUND

At the May 23, 2003 meeting, the Board approved in principle the preparation and issuance of a Request for Proposal (RFP) for a Richmond-Airport-Vancouver Rail Rapid Transit system (RAV) along a route that generally follows No. 3 Road, Grant McConachie Way, Cambie, Davie and Granville Streets..

The Board also approved in principle the following parameters for the vertical alignment for the RAV line consistent with the cities' and the Airport's condition of approval as follows:

(1) From the southern terminus at Cook/ Park Road at No. 3 Road to the Bridgeport Station, either at-grade or elevated along No. 3 Road;

(2) To cross the railway tracks near Bridgeport Station, elevated;

(3) From Bridgeport Station to the Airport terminus, elevated;

(4) From Bridgeport Station to 63rd Avenue on Cambie Street, elevated to cross the Fraser River, Marine Drive and other streets and railways;

(5) For a fully grade separated system (FGS), at-grade or trench alignment between 63rd and south of 49th Avenue on Cambie Street;

(6) For a partially grade separated system (PGS), at-grade between 63rd and 46th Avenues on Cambie Street;

(7) From 46th Avenue (or 49th Avenue if a fully grade separated system) to the downtown Vancouver terminus, in tunnel.

At the same meeting, the Board directed the CEO to report back on any other essential project elements, including those dealing with green space in the cities and preservation of the heritage, landscape and urban design values of the Cambie Heritage Boulevard in Vancouver, design of any tunnel portals and any other recommendations of the cities not covered in the vertical alignment. The Board also received for information the recommendations of the cities of Richmond and Vancouver from their meetings of April 28, 2003 and May 15, 2003 respectively and forwarded them to the Project Office for further review. Copies of the cities' resolutions are provided as attachments.

The Essential Elements are defined as the physical and performance elements that are deemed essential by TransLink and the funding partners to deliver service. These are items that must be met in a proposal.Attachment A summarizes the TransLink Essential Elements. The Airport Authority and the Province of BC are also in discussion with the RAV Project Office on their essential elements which are reflected in the Request for Proposals document

The essential elements include the following items:

- Reference Alignment
- Stations
- Performance Standards
- Fare System
- System Design Capacity
- Modal Integration
- Accessibility
- System Marketing
- Security

Most of the above was set out in the RAV "Project Definition Report" dated February 2003 and received for information by the Board at the March 2003 meeting and by the other contributing agencies and cities in February 2003. This report, which provided a number of vertical alignment options, was the subject of public consultation during the month of March. A report describing the results of the consultation was prepared and presented to the Board for information at the April meeting as well as to the other agencies.

Both the cities of Vancouver and Richmond considered staff reports and recommended proceeding with the Project on the horizontal alignment in the report and on the vertical alignment that was subsequently approved in-principle by the TransLink Board at the May 23, 2003 meeting.

The Airport has also indicated that their contribution to the project is on the condition that the line is elevated from Bridgeport Station to the Airport terminus. Subject to confirmation as part of the RFP process, the vertical alignment approved by the Board at the May 23 meeting can be accommodated within the Project budget.

DISCUSSION

The overriding principles associated with the RAV project include the following:

- TransLink's capital cost contribution will not exceed $300 million (2003 $'s) not including interest during construction.
- Over the period of the 30-year operating concession, the net new revenues generated by RAV coupled with the operating and debt service savings from reduced bus services in the corridor will cover the concession payments.

In addition, the project should ensure the following standards:

- High standard of design
- High level of safety and security
- Minimal community and environmental impacts

The following discussion responds to comments from the City of Richmond and Vancouver on the essential elements, as well as presents TransLink's conditions for the project. Detailed city resolutions are appended as Attachment B (Richmond) and Attachment C (Vancouver).

Reference Alignment

At the May 23, 2003 meeting the Board approved in-principle the vertical alignment for the RAV line consistent with the cities' and the Airport's conditions of approval (this is referred to as the reference alignment). The reference alignment provides for some variation in the vertical alignment on South Cambie and No. 3 Road in Richmond depending on whether a partially grade separated (PGS) or a fully grade separated system (FGS) is used. The following discussion addresses municipal and Airport issues regarding the alignment .

Airport

The Airport has as part of its essential elements requested that the alignment be elevated from Bridgeport Station to the Airport terminal building. As the Airport will pay the full capital costs of the line on Sea Island, it should have control over the vertical alignment on the section.

Richmond

The City of Richmond has accepted either an at-grade or elevated section in Richmond south of Bridgeport and No. 3 Road. Council has requested however, the use of the RFP and community consultation processes to measure the relative benefits and costs of an at-grade versus a grade-separated configuration prior to a decision being made on choice of technology. The at-grade option will result in longer travel times due to slower operating speeds and intersection delays, however any proposals would still be required to meet the proposed performance standard.

Vancouver

The Board approved the City of Vancouver request for a tunnel from the downtown terminus to either Cambie at 46th Avenue or 49th Avenue depending on technology and the use of only at-grade or trench south of this location to Cambie and 63rd Avenue. The following discussion presents the impact of this on the RAV Project.

The City points out that the at-grade and elevated options in downtown Vancouver would be very challenging given the impact of at-grade routes on pedestrian mobility, on-street parking and local bus routes particularly on Granville Mall. The report goes on to state the transition points to tunnel and elevated would be incompatible with the urban design standards that the City expects in the high-density downtown core. The elimination of the at-grade options in downtown eliminates one station downtown as the tunneled line has only three stations versus four for the at-grade options. This will increase the walking time required to access stations howevere this is compensated to some degree by the faster travel times overallFor these reasons, the tunnel option approved by the GVTA Board is preferred.

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In addition to downtown, the City's condition is for the tunnel to continue to at least 46th Avenue or 49th Avenue. The elimination of the at-grade options in downtown Vancouver and on Cambie north of 46th/ 49th Avenue will eliminate the lower capital cost options in the Project Definition report. The majority of these options however, did not meet the 30 minute performance standard set for travel time. Moreover while the at-grade options had lower capital costs this was largely offset by the higher operating costs due to longer travel times and larger fleet sizes. The at-grade options also had lower ridership forecasts .

On the southern section of Cambie Street, the City has requested that there be no elevated section and that only at-grade or trench be considered. The City would like

to see an option for the tunnel to be carried through to 63rd Avenue however, this would have a higher capital cost estimated at an additional $100 million putting the project's budget beyond the proposed upper limit.

The RAV project office indicates that a trenched alignment would be similar in cost to an elevated alignment however, there would be some additional cost due to the need for keeping the 49th Avenue station in tunnel. There will also be challenges with a trenched alignment given the need to maintain some pedestrian and vehicle access across Cambie Street as well as ensuring no net loss of green space on the Boulevard. The City of Vancouver has indicated that it is willing to give up travel lanes on the southern portion of Cambie in order to achieve the above.

Cambie Heritage Boulevard

The City of Vancouver has recommended that the heritage landscape and the urban design values of the Cambie Heritage Boulevard be preserved and that green space lost due to rail uses within the Cambie Street right-of-way be replaced within the street right-of-way through median and/or Boulevard widening. The City also proposes that any trees removed during construction be replaced with trees of a species and diameter mutually agreed upon by the City and the Project. TransLink staff support these recommendations.

At Cambie and Marine Drive, the City recommends the elevated crossing be kept to the lowest possible height to minimize intrusion. While efforts to accommodate Vancouver's wish should be undertaken by the Project, some flexibility should be maintained in order to accommodate potential station locations that may require a mezzanine to span the street to connect with an off-street bus station at Marine Drive.

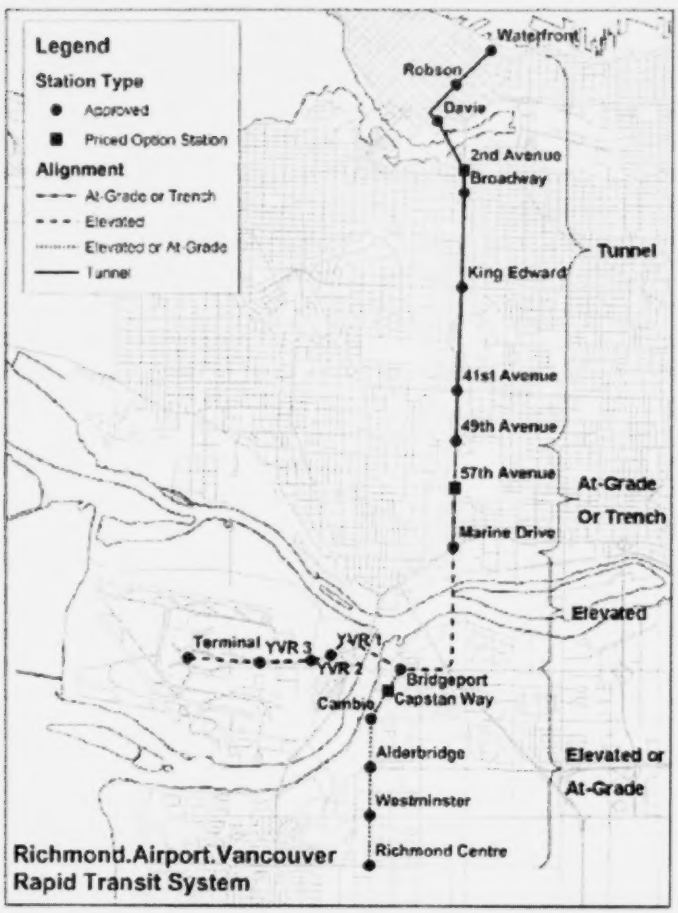
Alignment Summary

The City of Vancouver condition for a tunnel meets the travel time target, and some of the increased capital cost is offset by lower operating costs. The lowest cost acceptable option is now estimated in the range of $1.6 billion instead of $1.5 billion while the higher end options remain estimated at $1.7 billion. Staff supports the alignment-approved in-principle by the Board on May 23, 2003 and recommend this for inclusion in the Essential Elements.

Stations

The RAV Project Definition report identified 18-19 stations. With the decision to support a tunneled alignment in downtown Vancouver, the number of stations is reduced to18. The average station spacing on RAV is slightly more than 1.1 kilometres compared to 1.5 kilometres on the Millennium and Expo Lines. Not withstanding the above, staff believe there is a need to consider additional stations particularly in the City of Vancouver.

Airport - The Airport Authority has now identified a need for five stations including two at the terminal (one located at the domestic terminal and the second at the international terminal). The intent is for the RFP to include pricing for the five stations however, should there be insufficient funds to pay for the stations then the number will be reduced. If this were to be the case and the Airport decided to retain the right to introduce them at a future point in time, it should again be to the Airport Authority's account. Additional stations will have an impact on operating costs of the system once the system is running however, TransLink supports efforts to increase airport ridership and operating revenue.



Richmond - In Richmond, Council has requested provision be made for a future station at Capstan Way and No. 3 Road The cost of adding an at-grade station is relatively low (less than $5 million) while an elevated station is likely in the range of $10-15 million. It is proposed that the station be identified in the RFP as a future station and that TransLink discuss with the City of Richmond the conditions under which a new station would be introduced.

Vancouver - In Vancouver, Council has requested TransLink and the contributing agencies to ensure the RFP includes four additional stations with

consideration of a fifth station. The estimated cost of the five stations is in the order of $200 million (four stations are underground), which is beyond the project's budget. The five additional stations from south to north are as follows – 57th Avenue, 33rd Avenue, 16th Avenue, 2nd Avenue and Granville at Dunsmuir (Granville Station). TransLink staff have reviewed the requested stations and offer the following assessment.

At 57th Avenue the station could be in trench or at-grade and therefore could be constructed at substantially lower cost than underground stations. The station would serve the existing cluster of high rises at Langara Gardens and possible future redevelopment. The station is located 750 metres from the nearest stations at 49th and Marine Drive. There are presently no east-west bus routes at the proposed station site. It is suggested that the RFP include provision for a future station at this location; that a price for the station be obtained in the RFP; and that further work be undertaken to determine projected ridership at the station so that a decision can be taken at a later date.

At 33rd Avenue and 16th Avenue underground stations would be required at a projected cost of $100 million. At 33rd Avenue, the station would be located in Queen Elizabeth Park without bus connections. It is speculated that ridership would be very low and further there would be little redevelopment potential. At 16th Avenue there is medium density development in the vicinity however, there is no existing east-west bus connection although it is possible in the future. This location has the most severe grade on the line, which makes building a station more difficult. Given the high cost of building stations at these two locations and the almost impossible job of adding future underground stations while maintaining normal train operations, it is not realistic to believe that additional stations could be accommodated at 16th Avenue or 33rd Avenue. It is proposed however, that the RFP request proponents to advise on the implications of designing the alignment for the two stations at a future date.

The 2nd Avenue station is located at the south end of the Cambie Bridge. A station at this location would serve existing and future residential development on the south shore of False Creek as well as the possible Olympic Athletes Village. The station would also connect with the existing False Creek bus route to Granville Island, a future cross-town bus route on 2nd Avenue and possibly a future streetcar system on the abandoned CP Rail line. While the station would be relatively close to the Cambie and Broadway Station, a station at 2nd Avenue would benefit residents in the higher density area having to avoid an uphill walk.

As the 2nd Avenue location will likely serve as a base for bored tunnel excavation, it may be possible to construct a station at a lower cost than if a separate excavation is required. On the negative side, the station is located very close to False Creek and poor soils may be an issue adding to construction costs. Staff recommend that this station be included for pricing as an option in the RFP including both a full station option and a roughed in station box for future development. In addition work should be undertaken on the functional design of the station, possible alternative funding sources and better estimates of demand so that a decision can be made later.

In downtown Vancouver an additional station is requested for consideration to provide access to the Granville Station on the Expo Line. The cost of adding this station is very high and was previously dropped by the RAV Project Office. Given the overall budget for the line, it is not possible to reintroduce a station. The transfer movement however, between the Expo Line and RAV may be improved by sliding the Robson Station north of Robson and encouraging underground pedestrian linkages connecting through to Granville Station. This should be further investigated in the RFP.

Other station specifics that will be included in the essential elements are outlined in Table 1 below.

Table 1 – Stations

Location	Station Comment
1. Waterfront	The terminus must provide convenient and attractive connections and linkages to the Expo Line, SeaBus, West Coast Express, bus routes, air services, cruise ship terminal and future passenger ferries.
2. Robson	Underground serving the heart of downtown with potential linkage to existing Granville Station
3. Davie	Underground serving Downtown South and Yaletown
4. Broadway	Must be designed to accommodate a future passenger interchange with an underground or surface east-west rail rapid transit line on Broadway.
5. King Edward	Underground with connecting east-west bus route on King Edward
6. 41st Avenue	Underground with connecting east-west bus routes on 41st Avenue. Station should attempt to integrate into Oakridge Shopping Centre.
7. 49th Avenue	Underground or at-grade (for PGS) with connecting east-west bus route on 49th Avenue
8. Marine Drive	Elevated – must include off street bus station
9. Bridgeport	Elevated - Must include a park and ride lot and major off-street bus station
10. Cambie Road	At-grade or elevated on No. 3 Road
11. Alderbridge	At-grade or elevated on No. 3 Road
12. Westminster	At-grade or elevated on No. 3 Road
13. Richmond Ctr	At-grade or elevated - Must include a major off-street bus station
14. YVR #1	Elevated – cost paid for by Airport Authority
15. YVR #2	Elevated – cost paid for by Airport Authority
16. YVR #3	Elevated – cost paid for by Airport Authority
17. YVR Interntl.	Elevated – cost paid for by Airport Authority
18. YVR Domestic	Elevated – cost paid for by Airport Authority
Provision for Future Stations	
1. 2nd Ave	Underground – cost for full station and for roughed in station box
2. 57th Avenue	Possible trenched or at-grade - cost for both
3. Capstan Way	Provision for future station

In addition to the number and location of stations, TransLink should ensure that the stations are designed to a high standard including architectural quality and public and community safety. The latter should be accommodated through the application of Crime Prevention Through Environmental Design (CPTED) standards.

Performance Standards

Under the proposed private-public partnership arrangement, the service will be delivered through a long-term concession agreement in which the concessionaire will responsible for designing, building, financing, operating and maintaining the system and ensuring that it performs according to the specified performance standards.

The Performance Standards relating to Operating Hours, Travel Times, Reliability, Frequency, Capacity and Service Plans were identified in the RAV Project Definition report.

The City of Vancouver has suggested that the Performance Standards around travel times be relaxed to permit a design that is affordable and compatible with neighbourhood livability and provides better access to the system. The intent of the recommendation appears to be to allow for more stations (which increases travel time) and to permit at-grade operation along the southern portion of Cambie Street. The City of Richmond on the other hand suggests that the performance standards be adhered to and exceeded if possible.

The decision to adopt a largely tunneled alignment reduces the ability to add many additional stations due to cost and will result in a line that should easily meet the travel time target even with at-grade operation on South Cambie and No. 3 Road. It is therefore recommended that no change be made to the travel times standards.

Staff does suggest a minor change to the Operating Hours to improve the operational effectiveness and bring the system in line with the existing Expo and Millennium Lines while still recognizing the unique demands of the Vancouver International Airport.

The City of Richmond has requested that there be provision in the design of the system to accommodate a future direct train between Richmond Centre and the Airport. Preliminary review of the track work indicates this can be accommodated with a fully grade separated system that uses automated operation (SkyTrain or similar technology) at no additional cost. For conventional LRT operation it is less clear. TransLink staff support the Richmond position if it can be provided at no additional capital cost.

Below are the proposed essential elements of the Performance Standards.

Operating Hours

The system will operate continuously between the hours defined below for first arrivals and the last departures from each of the terminal stations.

The last departure from Waterfront shall complete its journey to Richmond Centre and vice-versa. The last departure from the Airport shall complete its journey to Waterfront.

The first arrivals at the terminal stations must have completed a full journey from the other terminal station of the route being served. The first and last trains are illustrated in Table 2 (the proposed changes from the RAV project definition report are highlighted). RAV project staff indicate they are supportive of the proposed changes however, they point out these changes should be agreed to by the other contributing agencies.

Terminus Station	Monday to Friday	Saturday	Sunday and Holidays
Waterfront			
First train arrives:	5:45 am	5:45 am	5:45 am
Last train leaves:	**1:15 am** (1:45 am)	**1:15 am** (1:45 am)	**1:15 am** (12:15 am)
Richmond Centre			
First train arrives:	**5:45 am** (5:15 am)	**5:45 am** (5:15 am)	**5:45 am** (5:15 am)
Last train leaves:	12:45 am	12:45 am	**12:45 am** (12:15 am)
Airport			
First train arrives:	5:15 am	5:15 am	5:15 am
Last train leaves:	12:45 am	12:45 am	12:45 am

Note: *Bolded times denote recommended change from RAV Project Definition Report, March 2003*

Travel Times

The system must deliver the following terminus-to-terminus travel times or better.

- Between Vancouver (Waterfront Station) and Richmond Centre – 30 minutes
- Between Vancouver (Waterfront Station) and the Airport - 25 minutes

The travel times are from the time of departure at the originating terminus to the time of arrival at the destination terminus including all station dwell times.

For at-grade, or partially at-grade systems, sufficient allowances shall be made for any delays that will likely occur at traffic crossings.

Reliability

To attract riders the system must be reliable. Customers need to know that the travel times will be achieved almost all of the time. Reliability is also important to airline passengers who have to meet scheduled departure times.

Reliability targets are being developed and will be part of the payment regime during operations (e.g. there will be reduced payments if the targets are not met).

Train Frequency

At no time will the frequency of service be wider (worse) than those specified in the Table 3.

Time Period	Approx. Time Span	Richmond-Waterfront	Airport-Waterfront	Airport-Bridgeport	Combined Bridgeport-Waterfront	Combined Airport-Bridgeport
Peak	0700-0900 hrs 1500-1800 hrs Mon-Fri	7.5	15	15	5	7.5
Mid-day	0900-1500 hrs Mon-Fri 1000-1800 hrs Weekend and Holidays	10	15	20	6	10
Evenings	1800-2300 hrs	15	15	-	7.5	15

	All days					
Early Morning	Start of service all days	20	20	20	10	10
Late Night	End of service all days	20	20	-	10	20

Note: *Times expressed as the maximum allowable minutes between scheduled trains*

Capacity

The system will deliver a capacity that exceeds the forecasted peak hour demand at the maximum load point on the line by 15%. The forecasts were undertaken by Halcrow/ TSI.

The peak hourly demand occurs in the am peak leading into the Broadway Station in the northbound direction. The demand will vary depending on the final configuration of the system, and in particular the travel times.

Based on the Project Definition report, the maximum capacity delivered will be no greater than:

2010: 5,200 passenger spaces per hour per direction at the maximum load point
2021: 5,800 passenger spaces per hour per direction at the maximum load point

Service Plans

The concessionaire will develop service plans that satisfy the following:

- Travel times
- Operating Hours
- Maximum Train Frequency
- Delivered Capacity

The service plans will clearly identify service frequencies throughout the day on the following three routes without the need to transfer:

1. Waterfront and Richmond Centre
2. Waterfront and the Airport
3. Bridgeport and the Airport

In addition, the design of the Bridgeport Station should be such that it can accommodate a future direct train between Richmond and the Airport without the need to transfer. This line should only be provided if the Bridgeport Station could accommodate the movement at no additional capital cost over the base configuration.

Fare System

As part of the proposal, all aspects of the RAV fare system will be determined by TransLink including establishing fare policy, structure, levels, technology and media (e.g. tickets and passes). This is an essential element. The one exception to the above is the requirement of the Airport Authority to have a fare free zone for stations located on Sea Island. This is required to allow for internal circulation between the two terminal buildings and the parking lots/ employment centres at YVR.

In the RAV Project Definition report it is assumed that while the stations will be designed to accommodate gates or turnstiles, the system would operate as a barrier free proof-of-payment system similar to the existing SkyTrain lines. Staff suggests that this should be amended so that all stations on the Fully Grade Separated (FGS) system and underground and elevated stations on the Partially Grade Separated (PGS) system have controlled entry for station entry and exit. Only at-grade stations on the PGS would use proof-of-payment, as it will not be possible to install controlled access at street level stations.

The introduction of controlled access on the RAV line is similar to West Coast Express and the bus system that will ensure appropriate revenue collection, ridership statistics and improve safety and security for customers using the system. The installation of gates could increase capital costs by as much as $20 to 30 million and result in $3 to $4 million in additional annual operating costs as all stations must have staff presence.

A detailed cost benefit analysis has not been undertaken, however the presence of so many underground stations make this line different from the existing SkyTrain. Moreover, given the DBOM arrangement, it is important that there be more precise revenue and ridership information available for the line. As the introduction of gates is not currently within the RAV project scope, it will require the agreement of the other contributing agencies.

Proponents responding to the RFP will be asked to include and separately identify the capital and operating costs of a controlled access system. This information will be considered in evaluating the overall affordability of each proposal.

Ultimate System Capacity

The RFP must specify the capacity that the system has to deliver at the start of the service and what additional capacity must be provided through the life of the concession. It also has to specify the ultimate system capacity, as it is extremely expensive, if not impossible to expand underground stations while the system is in operation. Determining the ultimate system capacity is a challenge, as there is a need to strike a balance between overbuilding which can add substantial capital cost and the need to ensure adequate capacity to accommodate future generations.

Guideways and some of the other principle structures, such as tunnels and underground stations, should be designed for 100 years. Forecasting demand that far

into the future is impossible. A prudent approach would assume that growth would be in the range of 2% to 2.5% per annum. A "rule of thumb" frequently used in the transit industry is to assume that the ultimate system capacity should be three times that of the opening day. Under both approaches ultimate system capacity should be no more than 15,000 passengers per hour per direction at the maximum load point on the line. Major structures such as tunnels and underground stations must be able to accommodate these volumes.

The performance standard indicates the concessionaire will deliver no greater than 5,200 passenger spaces per hour per direction in 2010 as this will satisfy the projected demand at that time. This would increase to 5,800 passenger spaces by 2021. The concession period is expected to be for 35 years starting in 2005 and ending in 2040. The concession agreement is structured such that the Concessionaire would provide additional fleet to meet passenger growth during the concession period up to 2040. If growth were to exceed the Halcrow/ TSI projections then TransLink would have to introduce additional cars at its expense. Given that the forecasting methodology for the 2010-2021 period appears sound, this is a reasonable risk for TransLink to undertake.

Modal Integration

Pedestrians, buses, bicycles and cars will provide access and distribution for RAV customers. To maximize the system's attractiveness and therefore the ridership and revenue potential high quality modal integration is a must.

Pedestrians

Pedestrian facilities are largely a responsibility of the cities and the Airport on Sea Island. Within the Cities of Vancouver and Richmond there are good pedestrian facilities at all proposed stations with the possible exception Bridgeport in Richmond. The City of Richmond already has plans for this area and it is likely that these facilities will be in place around the start up. On the Airport however, a number of stations appear to lack pedestrian facilities. The Airport Authority will be responsible for improving these as part their responsibility for that section of the line.

Buses

TransLink has prepared a bus integration strategy that proposes increased frequency on local bus routes in Richmond and Vancouver of about 20% by 2010 and 35% by 2021. This is subject however, to additional funding to achieve these service levels. Express and rapid bus routes that parallel the line will be eliminated while some parallel local bus services (on Cambie, Oak and Main Street) will be reduced to reflect the diversion of passengers to RAV. As a part of the payment stream for RAV will come from bus savings on parallel routes it is important that TransLink achieve these savings.

Both the City of Vancouver and Richmond have recommended that the Bus Integration Strategy be further reviewed through Area Transit Plan processes prior to

2010. This is a reasonable request that can be accommodated. The City of Vancouver has also requested the TransLink Board to commit prior to the final approval of the RAV project, to a major increase in the provision of trolley and bus service such that provision of bus service frequency, hours of service and loading standards in Vancouver will rise by 2010 to be in the top quarter of major urban areas of Canada. As noted above, a major improvement to bus service is proposed however, this will be subject to additional funding. TransLink will have an opportunity to review this after the fall consultation on the long-range plan and before the final decision on RAV.

While TransLink will work with the municipalities on further details of the bus plan, an essential element is the provision for off-street bus facilities at three stations, including the following:

1. **Marine Drive Station** – facility capable of accommodating 5 bays and 7 layover positions for buses and trolleys
2. **Bridgeport Station** – facility capable of accommodating 15 bays and 8 layover positions for buses and coaches
3. **Richmond Centre Station** - facility capable of accommodating 10 bays and 8 layover positions for buses.

Bus connections at other stations along the line are also important however, these will be accommodated through careful placement of on-street bus stops near station entry points.

Bicycles

Integration with bicycles include connections to municipal bikeways, bicycle parking at stations and bicycle accommodation on trains. In addition, cycling groups as well as the Cities of Richmond and Vancouver have requested that the bridge across the Fraser River North Arm be expanded to allow a crossing for cyclists as the Oak and Arthur Laing Bridges are not friendly for bicycle users.

TransLink staff proposes to work closely with the cities on developing adequate bicycle storage at stations including racks and lockers where it is appropriate given the likely demand and available space. Insofar as accommodating bicycles on trains, staff propose that this should be an essential element and that every train have dedicated space for two bicycles at all times of the day including peak hours. This area should be separate from the wheelchair area and included in the RFP.

Lastly with respect to accommodating bicycles on the rapid transit crossing between Vancouver and Richmond, The RFP will require the proponents to describe and quote the cost for adding pedestrian / cycling facilities to the bridge crossing.

Automobiles

Automobile parking (1,100 cars) is planned for the Bridgeport Station and is supported by the City of Richmond to achieve ridership objectives. There are no

other stations planned for park and ride facilities. The City of Richmond has suggested examination of the possibility of establishing secondary park and ride facilities along No. 3 Road although these would appear to duplicate the primary facility. TransLink would support private sector provision of secondary sites at no additional cost to TransLink.

Accessibility

In keeping with TransLink policy, all stations and cars on the RAV line will be accessible to the people with disabilities. This is an essential element. TransLink will also provide for HandyDART pick up and drop off locations at stations and will work with cities to provide this on-street near station entrances where off-street bus loops do not exist.

System Marketing

As the RAV will be an integrated part of the regional transportation system operated by TransLink, it is essential that TransLink retain the responsibility for undertaking the marketing of the new service. This will include market research into customer needs, system positioning, promotion and branding as well as specifying the identification inside and at the entrances of stations and on the interior and exterior of vehicles including the livery. TransLink will provide customer information for the new line as part of its overall transportation system information activities.

Security

There will be two levels of security. The first level will be provided by the operating company. The second level will be provided directly by TransLink or some other competent authority as determined by TransLink.

The concessionaire will be required to enter into a contract with TransLink or some other competent authority if determined by TransLink for the provision of security along the new line. The cost of providing all security on the line will be part of the concessionaires operating budget.

Although not technically an essential element, there are two other areas which staff view as important to be considered in the RFP. The first relates to alternate bids and the second to future extensions.

Alternate Bids

In order to ensure best value for taxpayers, it is essential that the RFP include provision for alternate bids from the short listed proponent teams so long as the team provides a compliant bid at the same time. The alternate bid could include the introduction of a Premium Airport service between the Airport and Downtown Vancouver for which the proponent would be expected to enter into a track usage agreement with TransLink. In addition, non-compliant bids could include options

such as minor changes to alignments or other options, which reduce lifecycle operating and capital costs.

Future Extensions

The City of Richmond has requested that the design of the southern terminus be flexible in order to extend the system further south in the future when warranted. Current TransLink and GVRD plans do not indicate extension of the system south of Richmond Town Centre. Nevertheless it would be prudent to ensure that the line could be developed in such a way that would not preclude the extension of the line south via No. 3 Road, Granville and the old rail right-of-way to Steveston.

CONCLUSION

While the new the Richmond-Airport-Vancouver rapid transit line will be developed as a design, build, finance, operate and maintain contract it will in the end be an integral part of the regional transportation system managed by TransLink. To ensure that the system is part of the overall network and responds to regional and municipal concerns, a list of essential elements which define physical and performance parameters for the RAV project has been developed. The elements include key alignment, station, performance and other mandatory items to be included in the RFP.

Attachment A

TransLink

Richmond-Airport-Vancouver Rail Rapid Transit Project

Essential Elements

July 11, 2003

TRANSLINK

Introduction

This document describes the essential project elements for a rail rapid transit line connecting the City of Richmond, Vancouver International Airport and City of Vancouver. The essential elements are conditions that must be met in a Proposal. The essential elements define service in terms of output standards or parameters within which the system can be designed.

Overriding Principles

The overriding principles associated with the RAV project include the following:

- TransLink's capital cost contribution will not exceed $300 million (2003 $'s) not including interest during construction; and
- Over the period of the 30-year operating concession, the net new revenues generated by RAV coupled with the operating and debt service savings from reduced bus services in the corridor will cover the concession payments.

In addition, the project should ensure the following standards:

- *High standard of design*
- *High level of safety and security*
- *Minimal community an environmental impacts*

Reference Alignment

The rail rapid transit line generally follows No. 3 Road, Grant McConachie Way, Cambie, Davie and Granville Streets. The following parameters for the vertical alignment for the RAV line are consistent with the cities' and the Airport's condition of approval as follows:

1. *From the southern terminus at Cook/ Park Road at No. 3 Road in Richmond to the Bridgeport Station, either at-grade or elevated along No. 3 Road;*

2. *To cross the railway tracks near Bridgeport Station, elevated;*

3. *From Bridgeport Station to the Airport terminus, elevated;*

4. *From Bridgeport Station to 63rd Avenue on Cambie Street in Vancouver, elevated to cross the Fraser River, Marine Drive and other streets and railways;*

5. *For a fully grade separated system (FGS), at-grade or trench alignment between 63rd and south of 49th Avenue on Cambie Street;*

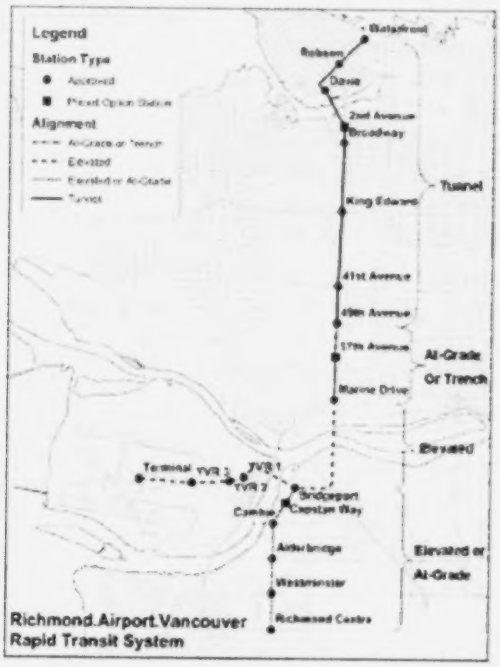
6. *For a partially grade separated system (PGS), at-grade between 63rd and 46th Avenues on Cambie Street;*

7. *From 46th Avenue (or 49th Avenue if a fully grade separated system) to the downtown Vancouver terminus at Waterfront Station, in tunnel.*

The heritage landscape and the urban design values of the Cambie Heritage Boulevard must be preserved and green space lost due to rail uses within the Cambie Street right-of-way be replaced within the street right-of-way through median and/or Boulevard widening. Any trees removed during construction must be replaced with trees of a species and diameter mutually agreed upon by the City and the Project.

For a partially grade-separated system, at-grade pedestrian and vehicle crossings must be maintained at Cambie and 49th, 57th and 59th Avenues, with additional pedestrian crossings in the vicinities of 54th and 62nd Avenues.

For a fully grade-separated system, grade separated pedestrian and vehicle crossings must be maintained at Cambie and 57th and 59th Avenues, with additional pedestrian crossings in the vicinities of 54th and 62nd Avenues.



Stations

The RAV line will have 18 stations and the provision will be made for three additional stations as outlined in the table below.

Location	Station Comment
1. Waterfront	The terminus must provide convenient and attractive connections and linkages to the Expo Line, SeaBus, West Coast Express, bus routes, air services, cruise ship terminal and future passenger ferries.
2. Robson	Underground serving the heart of downtown with potential linkage to existing Granville Station
3. Davie	Underground serving Downtown South and Yaletown.
4. Broadway	Must be designed to accommodate a future passenger interchange with an underground or surface east-west rail rapid transit line on Broadway.
5. King Edward	Underground with connecting east-west bus route on King Edward
6. 41st Avenue	Underground with connecting east-west bus routes on 41st Avenue. Station should attempt to integrate into Oakridge Shopping Centre.
7. 49th Avenue	Underground or at-grade (for PGS) with connecting east-west bus route on 49th Avenue
8. Marine Drive	Elevated – must include off street bus station
9. Bridgeport	Elevated - Must include a park and ride lot and major off-street bus station
10. Cambie Road	At-grade or elevated on No. 3 Road
11. Alderbridge	At-grade or elevated on No. 3 Road
12. Westminster	At-grade or elevated on No. 3 Road
13. Richmond Ctr	At-grade or elevated - Must include a major off-street bus station
14. YVR #1	Elevated – cost paid for by Airport Authority
15. YVR #2	Elevated – cost paid for by Airport Authority
16. YVR #3	Elevated – cost paid for by Airport Authority
17. YVR Interntl.	Elevated – cost paid for by Airport Authority
18. YVR Domestic	Elevated – cost paid for by Airport Authority
Provision for Future Stations	
1. 2nd Ave	Underground – cost for full station and for a roughed in station box
2. 57th Avenue	Possible trenched or at-grade - cost for both
3. Capstan Way	Provision for future station

The Broadway Station will be designed in such a way as to allow for a future transfer connection to either an underground extension of the Millennium Line or an at-grade light rail line on Broadway.

All stations will be designed to a high standard including architectural quality and public and community safety. The latter should be accommodated through the application of Crime Prevention Through Environmental Design (CPTED) standards.

In addition, proponents will be required to advise on the implications of designing the alignment to accommodate future stations at 16th Avenue and 33rd Avenue in the City of Vancouver.

Performance Standards

The Performance Standards relating to Operating Hours, Travel Times, Reliability, Frequency, Capacity and Service Plans are identified below:

Operating Hours

The system will operate continuously between the hours defined below for first arrivals and the last departures from each of the terminal stations.

The last departure from Waterfront shall complete its journey to Richmond Centre and vice-versa. The last departure from the Airport shall complete its journey to Waterfront.

The first arrivals at the terminal stations must have completed a full journey from the other terminal station of the route being served. The first and last trains are illustrated in the table below.

RAV Operating Hours

Terminus Station	Monday to Friday	Saturday	Sunday and Holidays
Waterfront			
First train arrives:	5:45 am	5:45 am	5:45 am
Last train leaves:	1:15 am	1:15 am	1:15 am
Richmond Centre			
First train arrives:	5:45 am	5:45 am	5:45 am
Last train leaves:	12:45 am	12:45 am	12:45 am
Airport			
First train arrives:	5:15 am	5:15 am	5:15 am
Last train leaves:	12:45 am	12:45 am	12:45 am

Travel Times

The system must deliver the following terminus-to-terminus travel times or better.

- Between Vancouver (Waterfront Station) and Richmond Centre – 30 minutes
- Between Vancouver (Waterfront Station) and the Airport - 25 minutes

The travel times are from the time of departure at the originating terminus to the time of arrival at the destination terminus including all station dwell times and any delays incurred at intersections as a result of at-grade on street right-of-way operation.

Reliability

To attract riders the system must be reliable. Customers need to know that the travel times will be achieved almost all of the time. Reliability is also important to airline passengers who have to meet scheduled departure times.

Reliability targets are being developed and will be part of the payment regime during operations (e.g. there will be reduced payments if the targets are not met).

Train Frequency

At no time will the frequency of service be wider (worse) than those specified in the following table.

RAV Maximum Allowable Headways (minutes between trains by segment)

Time Period	Approx. Time Span	Richmond-Waterfront	Airport-Waterfront	Airport-Bridgeport	Combined Bridgeport-Waterfront	Combined Airport-Bridgeport
Peak	0700-0900 hrs 1500-1800 hrs Mon-Fri	7.5	15	15	5	7.5
Mid-day	0900-1500 hrs Mon-Fri 1000-1800 hrs Weekend & Holidays	10	15	20	6	10
Evenings	1800-2300 hrs All days	15	15	-	7.5	15
Early Morning	Start of service all days	20	20	20	10	10
Late Night	End of service all days	20	20	-	10	20

***Note:** Times expressed as the maximum allowable minutes between scheduled trains*

Capacity

The system will deliver a capacity that exceeds the forecasted peak hour demand at the maximum load point on the line by 15%. .

The peak hourly demand occurs in the am peak leading into the Broadway Station in the northbound direction. The demand will vary depending on the final configuration of the system, and in particular the travel times.

The maximum capacity delivered will be no greater than:

2010: 5,200 passenger spaces per hour per direction at the maximum load point
2021: 5,800 passenger spaces per hour per direction at the maximum load point

Service Plans

Service plans that satisfy the following:

- Travel times
- Operating Hours
- Maximum Train Frequency
- Delivered Capacity

The service plans will clearly identify service frequencies throughout the day on the following three routes without the need to transfer:

1. Waterfront and Richmond Centre

2. *Waterfront and the Airport*
3. *Bridgeport and the Airport*

In addition, the design of the Bridgeport Station should be such that it can accommodate a future direct train between Richmond and the Airport without the need to transfer. This line should only be provided if the Bridgeport Station could accommodate the movement at no additional capital cost over the base configuration.

Fare System

All aspects of the RAV fare system will be determined and specified by TransLink including establishing fare policy, structure, levels, technology and media (e.g. tickets and passes). The one exception is the requirement of the Airport Authority to have a fare free zone for stations located on Sea Island.

All stations on the Fully Grade-Separated (FGS) system and underground and elevated stations on the Partially Grade-Separated (PGS) system should use controlled access for station entry and exit. Only at-grade stations on the PGS would permit use of a proof-of-payment fare system, as it will not be possible to install controlled access at street level stations.

The use of controlled access will ensure appropriate revenue collection, ridership statistics and improve safety and security for customers using the system. Proponents responding to the RFP will be asked to include and separately identify the capital and operating costs of a controlled access system. This information will be considered in evaluating the overall affordability of each proposal.

Ultimate System Capacity

Guideways and other primary structures such as tunnels and underground stations should be designed for 100 years. The system must be designed to be capable of accommodating 15,000 passengers per hour per direction at the maximum load point on the line in the future. Major structures such as tunnels and underground stations must be able to accommodate these volumes and proponents must demonstrate a future service configuration capable of delivering this volume.

Modal Integration

Pedestrians, buses, bicycles and cars will provide access and distribution for RAV customers. To maximize the system's attractiveness and therefore the ridership and revenue potential high quality modal integration is a must.

Pedestrians

Pedestrian facilities are largely a responsibility of the cities and the Airport on Sea Island however, the project shall work closely with the municipalities and the Airport Authority to ensure attractive and convenient connections.

Buses

The project will provide for off-street bus facilities at three stations, including the following:

1. **Marine Drive Station** – facility capable of accommodating 5 bays and 7 layover positions for buses and trolleys
2. **Bridgeport Station** – facility capable of accommodating 15 bays and 8 layover positions for buses and coaches
3. **Richmond Centre Station** - facility capable of accommodating 10 bays and 8 layover positions for buses

Bus connections at other stations along the line are also important however, these will be accommodated through careful placement of on-street bus stops near station entry points.

Bicycles

Bicycle storage at stations including racks and lockers will be provided where it is appropriate given the likely demand and available space.

Every train will have dedicated space for two bicycles at all times of the day including peak hours. This area should be separate from the wheelchair area.

The rapid transit crossing of the Fraser River between Vancouver and Richmond should be capable of accommodating bicycles and pedestrians subject to feasibility study and cost. The incremental cycling/ pedestrian facility would be a TransLink funded addition.

Automobiles

Automobile parking (1,100 cars) must be provided at the Bridgeport Station.

Accessibility

All stations and cars on the RAV line will be accessible to the people with disabilities.

System Marketing

As the line will be an integrated part of the regional transportation system, TransLink retains the responsibility for undertaking the marketing of the service. This will include market research into customer needs, system positioning, promotion and branding as well as specifying the identification inside and at the entrances of stations and on the interior and exterior of vehicles including the livery.

TransLink will provide customer information for the new line as part of its overall transportation system information activities.

Security

The concessionaire will be required to enter into a contract with TransLink or some other competent authority if determined by TransLink for the provision of security along the new line. The cost of providing all security on the line will be part of the concessionaires operation.

Attachment B

CITY OF RICHMOND

RESOLUTION ON RAV PROJECT AT THE SPECIAL MEETING, April 28/03
(extracted from City of Richmond website)

CITY OF RICHMOND

RESOLUTION ON RAV PROJECT AT THE SPECIAL MEETING, APRIL 28

(extracted from City of Richmond website)

R03/8-24 It was moved and seconded

(1) That, as part of the regional road and transportation improvement priorities identified by TransLink, the implementation of a rapid transit system between downtown Vancouver, Richmond and the Vancouver International Airport, be endorsed, that:

(a) is generally aligned along the corridors of Cambie Street, No. 3 Road and Grant McConachie Way respectively;

(b) is funded per a capital cost-sharing formula between the Government of Canada, the Province of BC, Vancouver International Airport Authority, TransLink, and the private sector;

(c) is operational by late 2009, given the project is approved in 2003; and

(d) has a minimum of five stations on the No. 3 Road branch of the line including locations at Bridgeport, Cambie Road, Alderbridge Way, Westminster Highway, and Cook Road/Park Road with provisions for a future station at Capstan Way.

(2) That TransLink and the other contributing agencies be requested to incorporate the following as part of the further planning, proposal evaluation and detailed design activities:

(a) Cook Road/Park Road as the southern terminus, with the design providing the flexibility to extend the system further south in the future when warranted;

(b) further investigation of the future timing of establishing a station at Capstan Way;

(c) provision in the design of Bridgeport Station and related infrastructure to accommodate a future direct connection between Richmond and the airport;

(d) a critical joint review of station and alignment design with City staff to best ensure consistency with City Centre urban design principles and objectives and to enhance community liveability;

(e) development and detailed review of a bus integration plan that meets the needs of both regional and local transit users;

(f) establishment of a regional transit exchange at Bridgeport Station that includes a primary park and ride facility to support the achievement of the projected ridership of the system;

(g) examination of the possibilities of establishing secondary park and ride facilities along No. 3 Road;

(h) identification of construction-related and on-going traffic impacts and the development of mitigation measures to address the concerns;

(i) further public consultation on the detailed design of the system and the development of any measures to address identified concerns;

(j) the use of the Request for Proposals and community consultation processes to measure the relative benefits and costs of both at-grade and grade-separated configurations prior to a final decision being made on choice of technology;

(k) the performance standards specified in the Request for Proposals being adhered to and, if demand warrants, being exceeded;

(l) cycling and pedestrian facilities being integrated into the system infrastructure including the provision of end-of-trip facilities and connections to existing cycling networks, the accommodation of cyclists and pedestrians on any new crossing over the Fraser River and the accommodation of bicycles in the rail cars; and

(m) all other conditions and objectives stipulated in the Project Definition Phase being achieved.

(3) That should the project proceed, staff work with the RAVP Team to complete the tasks related to the various aspects of the project identified in Recommendation (2), and the RAVP Team report on the outcome of this work prior to awarding the final contract.

(4) That the above recommendations be conveyed to the participating agencies of the Richmond/Airport-Vancouver Rapid Transit Project.

CARRIED

Attachment C

CITY OF VANCOUVER

RESOLUTION ON RAV PROJECT AT THE SPECIAL MEETING, May 13/03
(extracted from City of Vancouver website)

CITY OF VANCOUVER

RESOLUTION ON RAV PROJECT AT THE SPECIAL MEETING, May 13/03 (extracted from City of Vancouver website)

WHEREAS, the City of Vancouver supports a Richmond-Airport-Vancouver rapid transit line as a key element in helping the city achieve its environmental, transportation and liveability objective; and

WHEREAS, the RAV project is proposed to be a public-private partnership in which a private company will be contracted to design, finance, build, operate and maintain over 35 years a public transportation project; and

WHEREAS, the public sector is proposed to contribute up to $1.35 billion (TransLink, $300 million; the province, $300 million; the federal government, $450 million, and the airport authority, $300 million) and a private company is to invest between $200 million and $300 million, and yet the major financial risk is assigned to the public sector, including:

- a yet-to-be-negotiated portion of any cost overruns on tunneling;
- all shortfalls if ridership revenues lower than predicted;
- repayment of an extra $63 million in operating costs paid by TransLink during the first 10 years of operation until ridership reaches predicted 100,000/day;
- all shortfalls if bus service reductions fail to produce predicted savings;
- any increases in interest rates;
- costs incurred if a private company defaults on the contract;
- any unforeseen costs and overruns judged to be TransLink's responsibility; and

WHEREAS, the public sector will contribute over 85 per cent of the cost and the private sector will invest less than 15 per cent of the cost, TransLink will have to pay a private company an annual guaranteed payment from $40 million to $60 million to cover the company's operating costs, repayment of its capital costs, and its profit; and

WHEREAS, TransLink directors, GVRD directors, and municipal councillors have been all denied access to key financial information regarding costs, revenue and risks included in the full PriceWaterhouseCoopers report on a design, finance, build, operate and maintain private-public partnership; and

WHEREAS, the public sector will have to pay as much as $10 million to private companies to cover their costs of submitting bids; and

WHEREAS, TransLink recently rejected Bombardier's proposal to operate the Millennium SkyTrain line because, with higher borrowing costs and a margin for profits, it would cost about $3 million a year more for a private company to operate the line than for TransLink to operate the system; and

WHEREAS, the City of Vancouver has a long tradition of successful design, finance, build, operate and maintain projects to provide municipal services; and

WHEREAS, the City of Vancouver is concerned about the impact on public services under provisions of the WTO/GATS, NAFTA and other international agreements if a private company finances, operates and maintains public transportation services; and

WHEREAS, the Federation of Canadian Municipalities has specifically advised that these agreements "Do not offer the possibility of indemnification of Canadian municipalities

by the Government for the costs of trade tribunal decisions following from municipal actions, even where those actions conform to domestic law"; and

WHEREAS, if the Greater Vancouver Transportation Authority should decide to privatize part of the public transit system by implementing a P3 project would mean foreign investors would be able to claim they should be given the same treatment when similar projects are considered such as the Coquitlam line.

THEREFORE BE IT RESOLVED THAT

Council affirms its commitment to the public operation and control of public transit and requests that the GVRD and TransLink reject a public-private partnership with regard to finance, operation, maintenance and control of the RAV line;

AND FURTHER BE IT RESOLVED THAT this motion be conveyed to all member municipalities of the GVRD with the request that each municipality and their TransLink and GVRD Directors act to support public control of public transit services.

carried

AMENDMENT MOVED by Councillor Sullivan

THAT the word "reject" in the first paragraph of the Resolved be struck out and replaced with the words "exercise great caution around".

LOST
(Councillors Bass, Cadman, Green, Louie, Louis, Roberts, Stevenson, Woodsworth and the Mayor opposed)

The amendment having lost, the motion was put and CARRIED with Councillor Ladner opposed.

MOVED by Councillor Roberts

A. THAT Council reiterate its support for a Richmond/Airport-Vancouver (RAV) rapid transit line as a key element in helping the City achieve its environmental, transportation and liveability objectives.

amended
AMENDMENT MOVED by Councillor Bass
THAT Motion A be amended by adding the following words at the end:
"...if it becomes part of a comprehensive, carefully-developed, adequately-funded, long-term, regional strategic transportation plan."
amended
AMENDMENT MOVED by Councillor Sullivan
THAT the foregoing amendment to Motion A be amended by striking out the words "if it becomes" and replacing them with the word "as".
CARRIED
(Councillors Bass, Cadman, Louis, Roberts and Woodsworth opposed)
The secondary amendment to the primary amendment having carried, the primary amendment was put and CARRIED with Councillor Bass opposed.
Motion A as amended:
A. THAT Council reiterate its support for a Richmond/Airport-Vancouver (RAV) rapid transit line as a key element in helping the City achieve its environmental, transportation and liveability objectives as part of a comprehensive, carefully-developed, adequately-funded, long-term, regional strategic transportation plan.
CARRIED
(Councillor Bass opposed)

MOVED by Councillor Louie

B. THAT Council advise TransLink and the GVRD that enhanced transit service to UBC remains a City priority and that TransLink commit to a schedule for its implementation.

CARRIED UNANIMOUSLY
MOVED by Councillor Roberts

C. THAT Council request TransLink and the other contributing agencies ("the Agencies") that the Richmond/Airport-Vancouver Rapid Transit Project (the "RAV Project") ensure that its forthcoming request for proposals (RFP) for a design-build Richmond/Airport-Vancouver rapid transit line reflect the conditions of support contained in Motions D through V.

CARRIED UNANIMOUSLY
MOVED by Councillor Green

THAT Council advise the Agencies that its conditions for the rapid transit system are as follows:

i) The City of Vancouver prefers the option that achieves the most best value for transit services. Given the significant impact on City neighbourhoods and urban landscape, the City should give final approval on grade separation and alignment.

lost
AMENDMENT MOVED by Councillor Bass

THAT the foregoing motion be amended by striking out the words "final approval" and replacing with the word "input"

LOST
(Councillors Cadman, Green, Louie, Louis, Roberts, Stevenson, Sullivan, Woodsworth and the Mayor opposed)
The amendment having lost, motion was put and LOST with Councillors Green, Ladner, Louie, Stevenson, Sullivan and the Mayor opposed.
MOVED by Councillor Green

D. THAT Council advise the Agencies that its conditions for the rapid transit system are as follows:

i) The City of Vancouver shall have input at every major decision point in the process.
ii) In a tunnel from Waterfront Station through downtown and continuing to at least 46th Avenue and Cambie for a partially grade-separated system, and to south of 49th Avenue and Cambie for a fully grade-separated system. The RFP should also include an option for remaining in a tunnel to 63rd Avenue. Any deviation from this must take into account the values of the City of Vancouver.

carried
AMENDMENT MOVED by Councillor Roberts

THAT the foregoing motion be amended by striking out the words following "continuing" in the last paragraph and replacing them with the words "to at least 25th Avenue and Cambie for a partially grade-separated system, and that the remainder of the line be at-grade on the rest of Cambie and further that there be no elevated portions on the Cambie Boulevard."

LOST
(Councillors Cadman, Green, Ladner, Louie, Louis, Stevenson, Sullivan, and the Mayor opposed)
(Councillor Woodsworth absent for the vote)
The amendment having lost, the motion was put and CARRIED with Councillors Bass, Cadman, Louis, Roberts and Woodsworth opposed.
MOVED by Councillor Green

THAT the following conditions (iii) through (ix) be added to D.

iii) Tunnel portals must be designed to minimise their visual impact.
iv) The heritage, landscape and urban design values of the Council- designated Cambie

Heritage Boulevard are preserved.

v) For a partially grade-separated system (conventional light rail transit), an at-grade alignment may be considered between 46th and 63rd Avenues if the design results in no net loss of green space within the Cambie Street right-of-way. At-grade pedestrian/vehicular crossings must be maintained at 49th, 57th and 59th Avenues, with additional pedestrian crossings in the vicinities of 54th and 62nd Avenues.

vi) For a fully grade-separated system (SkyTrain or comparable), an at-grade or trench alignment between 49th and 63rd Avenues may be considered if the design results in no net loss of green space within the Cambie Street right-of-way. Grade-separated pedestrian/vehicular crossings must be provided at 57th and 59th Avenues, with additional pedestrian crossings in the vicinities of 54th and 62nd Avenues.

vii) The alignment must not be elevated except south of 63rd Avenue, as required to cross SW Marine Drive. The elevated portion south of 63rd Avenue must be designed to cross Marine Drive at the lowest feasible height and be treated to minimise impacts on the residential properties on Cambie Street.

viii) Green space lost due to rail uses within the Cambie Street right-of-way should be replaced within the street right-of-way through median and/or boulevard widening. Any trees removed during construction must be replaced with trees of a species and diameter mutually agreed to between the City arborist, General Manager of Engineering Services and the RAV Project.

ix) Two lanes of pavement in each direction shall continue to be provided along Cambie Street south of any tunnel portal.

amended

AMENDMENT MOVED by Councillor Ladner

THAT the motion be amended to strike out condition (ix).

CARRIED UNANIMOUSLY

The Amendment to strike out (ix) having carried, Motion D(iii) through (viii) was put and CARRIED UNANIMOUSLY.

(Note from Clerk: The foregoing Motions D(i), (ii), and (iv) were discussed and voted on at a later point in the meeting; however, for ease of reference and clarity have been minuted in numerical order.)

MOVED by Councillor Stevenson

E. THAT the service standards (performance specifications) be relaxed to allow a range of travel times to permit a design that is affordable and compatible with neighbourhood liveability and to permit better access to the system.

CARRIED UNANIMOUSLY

MOVED by Councillor Louis

F. THAT the RAV Project meet the highest standards in station and system design, for example, crime prevention through environmental design (CPTED), neighbourhood fit and public art, as outlined in Appendix A of the Policy Report dated April 4, 2003, entitled "Richmond/Airport - Vancouver Rapid Transit Project".

G. THAT the City and the RAV Project agree on a mutually acceptable review process of the design and construction program and such process shall involve the private sector partner. This may include review by the Urban Design Panel and Development Permit Board of stations and vents, and by City Council in regard to changes to the Cambie Heritage Boulevard, if necessary, through a Heritage Alteration Permit.

H. THAT the system be designed to minimise visual, noise and vibration impacts on nearby properties.

CARRIED UNANIMOUSLY

MOVED by Councillor Roberts

I. THAT a construction management plan be developed to minimise construction impacts, maintain access to properties and businesses, and include a truck management plan.

CARRIED UNANIMOUSLY
MOVED by Councillor Roberts

J. THAT the stations on the line be designed for maximum integration into the city's transit, pedestrian and cycling networks, as well as to complement and enhance the communities they will serve. Where underground stations are provided, efforts should be made in order that pedestrians should not have to cross major streets at grade to make frequently used connections. Opportunities to integrate stations into adjacent developments should be pursued. Specific conditions for stations include:

i) The downtown terminus station in the Cordova/waterfront area should form an integral part of an expanded multi-modal transportation hub integrating Waterfront Station and the Canada Place/Convention Centre area.

CARRIED UNANIMOUSLY
MOVED by Councillor Green

THAT the following condition (ii) be added to J:

ii) Additional stations be included at 2nd Avenue at the south end of the Cambie Bridge to serve the South and Southeast False Creek developments and to provide a connection to the City's streetcar network; at 16th Avenue, at 33rd Avenue and at 57th Avenue to ensure the line serves Vancouver riders inside the City as well as Vancouver-Richmond commuters; and investigate the need for an additional station on Granville.

CARRIED UNANIMOUSLY
(NOTE FROM CLERK: The vote on J(ii) was taken at a later point in the meeting. However, for ease of reference and clarity, has been minuted in numerical order.)
MOVED by Councillor Louis

THAT the following conditions (iii) to (v) be added to J:

iii) The Broadway station be designed to accommodate the future extension of the Millennium Line west along Broadway.
iv) Incorporating the 41st Avenue station into the Oakridge Shopping Centre development is encouraged.
v) The preferred location of the Marine Drive station is on the ICBC Claim Centre property on the east side of Cambie Street south of SW Marine Drive. This station should have an off-street bus loop sufficient to serve as the terminus of the Main, Cambie, Oak and Granville trolley routes.

CARRIED UNANIMOUSLY
MOVED by Councillor Louis

K. THAT the system and all stations be fully accessible to persons using wheelchairs and other mobility devices, persons with sight and hearing disabilities, and passengers with small children.

CARRIED UNANIMOUSLY
MOVED by Councillor Woodsworth

L. THAT the RAV Project result in no reduction in local bus service from projected 2010 levels in the City of Vancouver. The bus integration plan for the project shall be reviewed as part of the Vancouver Area Transit Plan process, due to start late this year. The Area Transit Plan shall be reviewed before the RAV line opens.

amended
AMENDMENT MOVED by Councillor Bass
THAT the foregoing Motion L be re-worded to read as follows:

L. THAT Council request the TransLink Board to commit, prior to the final approval of the RAV Project, to a major increase in the provision of trolley and bus service such that provision of bus service frequency, hours of service and loading standards in Vancouver will rise by 2010 to the top quarter of major urban areas in Canada.

CARRIED
(Councillors Louie and Stevenson opposed)

The amendment to Motion L having carried, Motion L as amended was put and CARRIED UNANIMOUSLY.

MOVED by Councillor Roberts

M. THAT the RAV Project be designed to accommodate bicycles on board trains and provide bicycle parking facilities at stations. Provision of secure, enclosed, short-term bicycle parking is encouraged where feasible.

amended

AMENDMENT MOVED by Councillor Bass

THAT Motion M be amended by inserting the word "all" in front of the words "trains" and "stations" in the first sentence.

CARRIED UNANIMOUSLY

MOTION M AS AMENDED:

M. THAT the RAV Project be designed to accommodate bicycles on board all trains and provide bicycle parking facilities at all stations. Provision of secure, enclosed, short-term bicycle parking is encouraged where feasible.

CARRIED UNANIMOUSLY

MOVED by Councillor Louie

N. THAT good bicycle access be provided at all stations. Providing bicycle access to and on the new Fraser River transit bridge should be considered.

CARRIED UNANIMOUSLY

MOVED by Councillor Louis

O. THAT TransLink capital funding for the Project be capped at $300 million and that the repayment of this debt should not result in reduced bus service or curtailed plans for expansion of transit services.

CARRIED UNANIMOUSLY

MOVED by Councillor Woodsworth

P. THAT, if a private contractor designs and builds the RAV Project, it should include an independent monitoring process to ensure that the transfer of risk and reward to the private sector is appropriate, and that the public interest and investment in the project is protected. The benefits of private sector participation should be assessed through a comparison with what the public sector could achieve (public sector comparator). Furthermore, any private sector partner is expected to:

i) Liaise with City staff on design and alignment issues.

ii) Follow a technical review and approvals process agreed upon with the City.

iii) Participate actively in community consultation related to detailed planning and implementation of the line.

iv) Recommend solutions to traffic and environmental issues, and station and alignment compatibility issues with adjacent neighbourhoods.

v) Provide an adequate budget for appropriate community integration and mitigation measures.

CARRIED UNANIMOUSLY

MOVED by Councillor Bass

Q. THAT the RAV Project demonstrate a commitment to local employment and procurement practices.

CARRIED UNANIMOUSLY

MOVED by Councillor Stevenson

R. THAT before a decision to proceed with the RAV Project, staff should negotiate with the RAV Project Office to cover funding for a work program, staff and consulting resources, and a technical review of the project. As well, staff should report back on

the costs to the City of a public consultation process with affected residents, businesses and neighbourhoods.

CARRIED UNANIMOUSLY

MOVED by Councillor Roberts

S. THAT in order to exercise the due diligence required of TransLink Directors before an RFP is issued, the full PriceWaterhouseCoopers financial study and all other information must be available for their examination.

amended

AMENDMENT MOVED by Councillor Green

THAT Motion S be amended by adding at the end ", if they so request."

CARRIED

(Councillors Bass and Louis opposed)

MOTION S AS AMENDED:

S. THAT in order to exercise the due diligence required of TransLink Directors before an RFP is issued, the full PriceWaterhouseCoopers financial study and all other information must be available for their examination, if they so request.

CARRIED UNANIMOUSLY

MOVED by Councillor Louis

T. THAT before an RFP is issued, all external funding sources must be identified and secured.

CARRIED UNANIMOUSLY

MOVED by Councillor Roberts

U. THAT in addition, TransLink must have a plan in place that identifies the source of revenue for repaying its capital investment and for covering the operating and maintenance costs of the RAV line as well as the funding to pay for other identified priorities, such as trolley buses, expansion of the bus fleet, completion of the Broadway line and construction of the Coquitlam extension.

CARRIED

(Councillor Sullivan opposed)

(Note from Clerk: It was at this point in the meeting that Council dealt with Motions D(i), D(ii), D(iv) and J(ii); however, for clarity all motions have been minuted in numerical order.)

MOVED by Councillor Roberts

THAT the foregoing Motion A passed by Council earlier in this meeting be reconsidered.

LOST

(Councillors Bass, Cadman, Green, Ladner, Louie, Stevenson, Sullivan and the Mayor opposed)

MOVED by Councillor Bass

V. THAT Council request the TransLink Board to specify transportation demand management strategies before final approval of the RAV Project, including a commitment to work with Federal and Provincial agencies to use TDM measures on roads and bridges leading to and crossing the Fraser River.

CARRIED

(Councillor Sullivan opposed)

During discussion of the foregoing motions, Judy Rogers, City Manager, Ann McAfee, Co-Director of Planning/Director of City Plans, Lon LaClaire, Engineering Services, Transportation Engineer, Strategic Transportation Planning, and Wayne Pledger, Strategic Transportation Planning Engineer, responded to questions concerning the Request for Proposals process and Council's input into that process. Pat Jacobsen, CEO of TransLink, was present and responded to questions concerning the RFP and the proposed private/public partnership.

The following are the approved motions of Council which have been consolidated for easy reference:

A. THAT Council reiterate its support for a Richmond/Airport-Vancouver (RAV) rapid transit line as a key element in helping the City achieve its environmental, transportation and liveability objectives as part of a

comprehensive, carefully-developed, adequately-funded, long-term, regional strategic transportation plan.

B. THAT Council advise TransLink and the GVRD that enhanced transit service to UBC remains a City priority and that TransLink commit to a schedule for its implementation.

C. THAT Council request TransLink and the other contributing agencies ("the Agencies") that the Richmond/Airport-Vancouver Rapid Transit Project (the "RAV Project") ensure that its forthcoming request for proposals (RFP) for a design-build Richmond/Airport-Vancouver rapid transit line reflect the conditions of support contained in Motions D through V.

D. THAT Council advise the Agencies that its conditions for the rapid transit system are as follows:

i) The City of Vancouver shall have input at every major decision point in the process.
ii) In a tunnel from Waterfront Station through downtown and continuing to at least 46th Avenue and Cambie for a partially grade-separated system, and to south of 49th Avenue and Cambie for a fully grade-separated system. The RFP should also include an option for remaining in a tunnel to 63rd Avenue. Any deviation from this must take into account the values of the City of Vancouver.
iii) Tunnel portals must be designed to minimise their visual impact.
iv) The heritage, landscape and urban design values of the Council- designated Cambie Heritage Boulevard are preserved.
v) For a partially grade-separated system (conventional light rail transit), an at-grade alignment may be considered between 46th and 63rd Avenues if the design results in no net loss of green space within the Cambie Street right-of-way. At-grade pedestrian/vehicular crossings must be maintained at 49th, 57th and 59th Avenues, with additional pedestrian crossings in the vicinities of 54th and 62nd Avenues.
vi) For a fully grade-separated system (SkyTrain or comparable), an at-grade or trench alignment between 49th and 63rd Avenues may be considered if the design results in no net loss of green space within the Cambie Street right-of-way. Grade-separated pedestrian/vehicular crossings must be provided at 57th and 59th Avenues, with additional pedestrian crossings in the vicinities of 54th and 62nd Avenues.
vii) The alignment must not be elevated except south of 63rd Avenue, as required to cross SW Marine Drive. The elevated portion south of 63rd Avenue must be designed to cross Marine Drive at the lowest feasible height and be treated to minimise impacts on the residential properties on Cambie Street.
viii) Green space lost due to rail uses within the Cambie Street right-of-way should be replaced within the street right-of-way through median and/or boulevard widening. Any trees removed during construction must be replaced with trees of a species and diameter mutually agreed to between the City arborist, General Manager of Engineering Services and the RAV Project.

E. THAT the service standards (performance specifications) be relaxed to allow a range of travel times to permit a design that is affordable and compatible with neighbourhood liveability and to permit better access to the system.

F. THAT the RAV Project meet the highest standards in station and system design, for example, crime prevention through environmental design (CPTED), neighbourhood fit and public art, as outlined in Appendix A of the Policy Report dated April 4, 2003, entitled "Richmond/Airport - Vancouver Rapid Transit Project".

G. THAT the City and the RAV Project agree on a mutually acceptable review process of the design and construction program and such process shall involve

the private sector partner. This may include review by the Urban Design Panel and Development Permit Board of stations and vents, and by City Council in regard to changes to the Cambie Heritage Boulevard, if necessary, through a Heritage Alteration Permit.

H. THAT the system be designed to minimise visual, noise and vibration impacts on nearby properties.

I. THAT a construction management plan be developed to minimise construction impacts, maintain access to properties and businesses, and include a truck management plan.

J. THAT the stations on the line be designed for maximum integration into the city's transit, pedestrian and cycling networks, as well as to complement and enhance the communities they will serve. Where underground stations are provided, efforts should be made in order that pedestrians should not have to cross major streets at grade to make frequently used connections. Opportunities to integrate stations into adjacent developments should be pursued. Specific conditions for stations include:

i) The downtown terminus station in the Cordova/waterfront area should form an integral part of an expanded multi-modal transportation hub integrating Waterfront Station and the Canada Place/Convention Centre area.
ii) Additional stations be included at 2nd Avenue at the south end of the Cambie Bridge to serve the South and Southeast False Creek developments and to provide a connection to the City's streetcar network; at 16th Avenue, at 33rd Avenue and at 57th Avenue to ensure the line serves Vancouver riders inside the City as well as Vancouver-Richmond commuters; and investigate the need for an additional station at Granville.
iii) The Broadway station be designed to accommodate the future extension of the Millennium Line west along Broadway.
iv) Incorporating the 41st Avenue station into the Oakridge Shopping Centre development is encouraged.
v) The preferred location of the Marine Drive station is on the ICBC Claim Centre property on the east side of Cambie Street south of SW Marine Drive. This station should have an off-street bus loop sufficient to serve as the terminus of the Main, Cambie, Oak and Granville trolley routes.

K. THAT the system and all stations be fully accessible to persons using wheelchairs and other mobility devices, persons with sight and hearing disabilities, and passengers with small children.

L. THAT Council request the TransLink Board to commit, prior to the final approval of the RAV Project, to a major increase in the provision of trolley and bus service such that provision of bus service frequency, hours of service and loading standards in Vancouver will rise by 2010 to the top quarter of major urban areas in Canada.

M. THAT the RAV Project be designed to accommodate bicycles on board all trains and provide bicycle parking facilities at all stations. Provision of secure, enclosed, short-term bicycle parking is encouraged where feasible.

N. THAT good bicycle access be provided at all stations. Providing bicycle access to and on the new Fraser River transit bridge should be considered.

O. THAT TransLink capital funding for the Project be capped at $300 million and that the repayment of this debt should not result in reduced bus service or curtailed plans for expansion of transit services.

P. THAT, if a private contractor designs and builds the RAV Project, it should include an independent monitoring process to ensure that the transfer of risk and reward to the private sector is appropriate, and that the public interest and investment in the project is protected. The benefits of private sector participation should be assessed through a comparison with what the public sector could achieve (public sector comparator). Furthermore, any private sector partner is expected to:

i) Liaise with City staff on design and alignment issues.
ii) Follow a technical review and approvals process agreed upon with the City.
iii) Participate actively in community consultation related to detailed planning and implementation of the line.
iv) Recommend solutions to traffic and environmental issues, and station and alignment compatibility issues with adjacent neighbourhoods.
v) Provide an adequate budget for appropriate community integration and mitigation measures.

Q. THAT the RAV Project demonstrate a commitment to local employment and procurement practices.

R. THAT before a decision to proceed with the RAV Project, staff should negotiate with the RAV Project Office to cover funding for a work program, staff and consulting resources, and a technical review of the project. As well, staff should report back on the costs to the City of a public consultation process with affected residents, businesses and neighbourhoods.

S. THAT in order to exercise the due diligence required of TransLink Directors before an RFP is issued, the full PriceWaterhouseCoopers financial study and all other information must be available for their examination if they so request.

T. THAT before an RFP is issued, all external funding sources must be identified and secured.

U. THAT in addition, TransLink must have a plan in place that identifies the source of revenue for repaying its capital investment and for covering the operating and maintenance costs of the RAV line as well as the funding to pay for other identified priorities, such as trolley buses, expansion of the bus fleet, completion of the Broadway line and construction of the Coquitlam extension.

V. THAT Council request the TransLink Board to specify transportation demand management strategies before final approval of the RAV Project, including a commitment to work with Federal and Provincial agencies to use TDM measures on roads and bridges leading to and crossing the Fraser River.

CARRIED
(Councillor Bass opposed to A)
(Councillors Bass, Cadman, Louis, Roberts and Woodsworth opposed to D(ii))
(Councillor Sullivan opposed to U and V)

Council also approved the following:

WHEREAS, the City of Vancouver supports a Richmond-Airport-Vancouver rapid transit line as a key element in helping the city achieve its environmental, transportation and liveability objective; and

WHEREAS, the RAV project is proposed to be a public-private partnership in which a private company will be contracted to design, finance, build, operate and maintain over 35 years a public transportation project; and

WHEREAS, the public sector is proposed to contribute up to $1.35 billion (TransLink, $300 million; the province, $300 million; the federal government, $450 million, and the airport authority, $300 million) and a private company is to invest between $200

million and $300 million, and yet the major financial risk is assigned to the public sector, including:

- a yet-to-be-negotiated portion of any cost overruns on tunneling;
- all shortfalls if ridership revenues lower than predicted;
- repayment of an extra $63 million in operating costs paid by TransLink during the first 10 years of operation until ridership reaches predicted 100,000/day;
- all shortfalls if bus service reductions fail to produce predicted savings;
- any increases in interest rates;
- costs incurred if a private company defaults on the contract;
- any unforeseen costs and overruns judged to be TransLink's responsibility; and

WHEREAS, the public sector will contribute over 85 per cent of the cost and the private sector will invest less than 15 per cent of the cost, TransLink will have to pay a private company an annual guaranteed payment from $40 million to $60 million to cover the company's operating costs, repayment of its capital costs, and its profit; and

WHEREAS, TransLink directors, GVRD directors, and municipal councillors have been all denied access to key financial information regarding costs, revenue and risks included in the full PriceWaterhouseCoopers report on a design, finance, build, operate and maintain private-public partnership; and

WHEREAS, the public sector will have to pay as much as $10 million to private companies to cover their costs of submitting bids; and

WHEREAS, TransLink recently rejected Bombardier's proposal to operate the Millennium SkyTrain line because, with higher borrowing costs and a margin for profits, it would cost about $3 million a year more for a private company to operate the line than for TransLink to operate the system; and

WHEREAS, the City of Vancouver has a long tradition of successful design, finance, build, operate and maintain projects to provide municipal services; and

WHEREAS, the City of Vancouver is concerned about the impact on public services under provisions of the WTO/GATS, NAFTA and other international agreements if a private company finances, operates and maintains public transportation services; and

WHEREAS, the Federation of Canadian Municipalities has specifically advised that these agreements "Do not offer the possibility of indemnification of Canadian municipalities by the Government for the costs of trade tribunal decisions following from municipal actions, even where those actions conform to domestic law"; and

WHEREAS, if the Greater Vancouver Transportation Authority should decide to privatize part of the public transit system by implementing a P3 project would mean foreign investors would be able to claim they should be given the same treatment when similar projects are considered such as the Coquitlam line.

THEREFORE BE IT RESOLVED THAT

Council affirms its commitment to the public operation and control of public transit and requests that the GVRD and TransLink reject a public-private partnership with regard to finance, operation, maintenance and control of the RAV line;

AND FURTHER BE IT RESOLVED THAT this motion be conveyed to all member municipalities of the GVRD with the request that each municipality and their TransLink and GVRD Directors act to support public control of public transit services.

CARRIED

(Councillor Ladner opposed)